

Pierce's Disease/Glassy-winged Sharpshooter Research Projects

Projects Funded in FY '00-'01

Adams	Identification of Molecular Markers in the Grapevine's Response to Infection by <i>Xylella fastidiosa</i>	USDA - APHIS
Civerolo	Epidemiology of <i>Xylella fastidiosa</i> Diseases in California	USDA - APHIS
Cohen	Development of an Artificial Diet for the GWSS - *	USDA - APHIS
Cook	Functional Genomics of the Grape-xylella Interaction: Towards the Identification of Host Resistance Determinants - *	USDA - APHIS / CDFA Board
Cooksey	Biological Control of Pierce's Disease with Non-pathogenic Strains of <i>Xylella fastidiosa</i> - *	CDFA - (AB 1232)
Cooksey	Epidemiology of Pierce's Disease in Southern California: Identifying Inoculum Sources and Transmission Pathways - *	CDFA - (AB 1232)
Cooksey	Control of Pierce's Disease Through Degradation of Xanthan Gum - *	USDA - APHIS
Costa / Cooksey	Impact of Multiple Strain Infections of <i>Xylella fastidiosa</i> on Acquisition and Transmission By the GWSS - *	USDA - APHIS
FAPESP / Civerolo	Genome Sequence of <i>Xylella fastidiosa</i> Strain Causing Pierce's Disease of California Grapevine	AVF-CDFA-USDA
Gilchrist / Lincoln	Application of Agrobacterium Rhizogenes-Mediated Transformation Strategies for a) Rapid High Through Put Screen for Genetic Resistance to Pierce's Disease in Grape that Maintains Clonal Integrity of the Recipient Host, and b) Rapid Screening for Virulence Determinants in <i>Xylella fastidiosa</i> - *	USDA - APHIS
Grafton-Cardwell	Efficacy of Insecticides used for GWSS Control in Citrus	Citrus Board

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Grafton-Cardwell	Evaluation of Efficiency of Sevin Treatments in Porterville GWSS Infestation	CDFA
Hammock / Kamita	Isolation and Characterization of GWSS Pathogenic Viruses	USDA - APHIS
Henneberry / Akey / Toscano	Potential of Conventional and Biorational Insecticides for GWSS Control	USDA - APHIS
Hoddle / Redak / Luck / Granett	Biocontrol of GWSS in California: One Cornerstone for the Foundation of an IPM Program - *	CDFA - (AB 1232)
Hunt	Mating Behavior of the GWSS, <i>Homolodisca coagulata</i> - *	USDA - APHIS
Jones	Classical Biological Control of <i>Homalodisca coagulata</i>	USDA - APHIS
Kirkpatrick	Production and Screening of <i>Xylella fastidiosa</i> Transposon Mutants and Microscopic Examination of <i>Xf</i> -Resistant and Susceptible <i>Vitis</i> Germplasm - *	USDA - APHIS / UC - PD
Kirkpatrick / Purcell / Anderson / Walker / Weber / Baumgartner	Biological, Cultural, and Chemical Management of Pierce's Disease - *	AVF / CDFA / VC / TABLE / RAISIN / CDFA
Labavitch / Matthews	The Development of Pierce's Disease in xylem: the Roles of Vessel Cavitation, Cell Wall Metabolism and Vessel Occlusion - *	USDA - APHIS
Lauzon	A Survey of Insect Vectors of Pierce's Disease (PD) and PD Infected Plants for the Presence of Bacteriophage that Infect <i>Xylella fastidiosa</i>	USDA - APHIS
Leal / Zalom	Developing a Novel Detection and Monitoring System for the GWSS - *	USDA - APHIS
Leopold	Cold Storage of Parasitized and Unparasitized Eggs of GWSS - *	USDA - APHIS

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Luck / Hoddle	Spatial and Temporal Relations Between GWSS Survival and Movement, Xylem Flux Patterns and Xylem Chemistry in Different Host Plants - *	USDA - APHIS
Luck / Redak	Seasonal Changes in the GWSS Age Structure, Abundance, Host Plant use and Dispersal - *	CDFA - (AB 1232)
Meredith	Genetic Transformation to Improve the Pierce's Disease Resistance of Existing Grape Varieties - *	AVF - CCGPRVE - UC-PD
Miller / Peloquin / Lauzon / Lampe / Cooksey / Richards	Insect-Symbiotic Bacteria Inhibitory to <i>Xylella fastidiosa</i> in Sharpshooters - *	USDA - APHIS
Mizell	Keys to Management of GWSS: Interactions Between Host Plants, Malnutrition and Natural Enemies - *	AVF / UC - PD
Peloquin	Sharpshooter-Associated Bacteria that may Inhibit Pierce's Disease	CDFA - (AB 1232)
Peng / Zalom	Reproductive Biology and Physiology of the GWSS - *	UC - PD / USDA - APHIS
Phillips	Survey of Egg Parasitoids of GWSS in California	Citrus Board
Price	<i>Xylella fastidiosa</i> Bacterial Polysaccharides with a Potential Role in Pierce's Disease of Grapes	AVF - USDA-APHIS
Purcell	Pruning for Control of Pierce's Disease	UC - IPM
Puterka	Alternatives to Conventional Chemical Insecticides for Control of GWSS	USDA - APHIS
Redak	Impact of Layering Control Tactics on the Spread of Pierce's Disease by the GWSS - *	CDFA - (AB 1232)
Redak	Developing an Integrated Pest Management Solution for Pierce's Disease Spread by the GWSS in Temecula	AVF

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Redak / Blua	Controlling the Spread of <i>Xylella fastidiosa</i> the Causal Agent of Oleander Leaf Scorch by Disrupting Vector Acquisition & Transmission - *	Cal Trans
Siebert	Economic Impact of Pierce's Disease on the California Grape Industry	CDFA - (AB 1232)
Stewart	Surrogate Genetics for <i>Xylella fastidiosa</i> : Regulation of Exopolysaccharide and Type IV Pilus Gene Expression - *	USDA - APHIS
Toscano / Castle	Laboratory and Field Evaluations of Imidacloprid and Thiamethoxam against GWSS on Citrus and Grapes - *	USDA - APHIS
Toscano / Redak / Hix / Blua	Area Wide Management of the GWSS in the Temecula Valley - *	USDA - APHIS
Walker / Ramming	The Genetics of Resistance to Pierce's Disease and Breeding Pierce's Disease Resistant Table and Raisin Grapes - *	USDA - APHIS / CDFA - Board

Projects Funded in FY '01-'02

Backus	Sharpshooter Feeding Behavior in Relation to Transmission of Pierce's Disease Bacterium - *	UC - PD
Blackmer	Sampling, Seasonal Abundance and Comparative Dispersal of GWSS in Citrus and Grapes - *	UC - PD
Blua/Walker	Impact of Sub-Lethal Doses of Neonicotinoids on GWSS Feeding and Transmission of Pierce's Disease	UC - PD
Cousins/Lu	Rootstock Variety Influence on Pierce's Disease Symptoms in Grafted Chardonnay (<i>Vitis vinifera</i> L.) Grapevines	UC - PD
Daane	Biology and Ecology of GWSS in the San Joaquin Valley - *	UC - PD
FAPESP / Van Sluys	<i>Xylella fastidiosa</i> Genome Analysis – Almond and Oleander Comparison to Pierce's Disease Temecula1 and Citrus Strains	AVF - USDA
Gabriel	Role of Type I Secretion in Pierce's Disease - *	UC - PD

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Grafton-Cardwell	Screening Insecticides in Nursery Citrus for Efficacy Against Glassy-winged Sharpshooter	CA Citrus Nursery
Hagler / Daane / Costa	A Monoclonal Antibody Specific to GWSS Egg Protein: A Tool for Predator Gut Analysis and Early Detection of Pest Infestation - *	UC - PD
Hix	Development of Trapping Systems to Trap the GWSS Homalodisca Coagulata Adults and Nymphs in Grape - *	AVF - CDFA Board
Hix	Glassy-winged Sharpshooter Impact on Yield, Fruit Size, and Quality - *	Citrus Board
Kirkpatrick	Studies on Bacterial Canker and Almond Leaf Scorch - *	Almond
Lindow	The Role of Cell-Cell Signaling in Host Colonization by <i>Xylella fastidiosa</i>	AVF - CCGPRVE
Lindow	Role of <i>Xylella fastidiosa</i> Attachment on Pathogenicity - *	UC - PD
Luvisi	Kern County Pilot Project	Kern-Tulare / CDFA / USDA-APHIS
Mizell	Host Selection Behavior and Improved Detection For GWSS, Homalodisca coagulata (Say)	AVF
Perring	Epidemiology of Pierce's Disease in the Coachella Valley - *	UC - PD
Phillips	Timing and Duration of Fresh Glassy-winged Sharpshooter Egg Masses in Lemon Fruit Rinds; Impact on Fruit Harvest and Shipments - *	Citrus Board
Purcell	Transmission of <i>Xylella Fastidiosa</i> to Almonds by the GWSS - *	Almond
Purcell	Characterization and Studies on the Fundamental Mechanisms of <i>Xylella fastidiosa</i> Transmission to Grapevines by the GWSS - *	UC - PD
Toscano	Chemical Control of GWSS: Establishment of Baseline Toxicity and Development of Monitoring Techniques for Detection of Early Resistance to Insecticides - *	UC - PD

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Projects Funded in FY '02-'03		
Bruening	Roles of <i>Xylella fastidiosa</i> Proteins in Virulence	CDFA - Board
Cousins	Rootstock Influence on Pierce's Disease	UC-PD
Freeman	Ultrastructural Contributions to the Study of the GWSS and Pierce's Disease*	UC-PD
Hashim	Monitoring and Control Measures for Pierce's Disease in Kern County	CCGPRVE
Hill	Epidemiological Assessments of Pierce's Disease	CDFA - Board
Hoch	Understanding <i>Xylella fastidiosa</i> Colonization and Communication in Xylem Lumina*	UC-PD
Hoddle	Is the GWSS Parasitoid <i>Gonatocerus ashmeadi</i> One Species or a Complex of Morphologically Indistinguishable Species?	UC-PD
Igo	The <i>Xylella fastidiosa</i> Cell Surface*	UC-PD
Lindow	Management of Pierce's Disease of Grape by Interfering with Cell-Cell Communication in <i>Xylella fastidiosa</i>	CDFA - Board
McKamey	Developing a Stable Classification of the GWSS Genus <i>Homalodisca</i> - *	UC-PD
Miller	Pressure Chamber Extraction of Xylem Fluid: Improving Bacterial Detection in Plants Affected by <i>Xylella fastidiosa</i>	UC-PD
Mizell	Behavioral and Physiological Determinants of the Geographical Range of the Glassy-Winged Sharpshooter	CDFA - Board
Mizell	Mycopathogens and Their Exotoxins Infecting GWSS: Survey, Evaluation and Storage - *	UC-PD
Nunney	Genome-wide Identification of Rapidly Evolving Genes in <i>Xylella fastidiosa</i> : Key Elements in the Systemic Identification of Host Strains, and in the Search for Plant-Host Pathogenicity Candidate Genes - *	UC-PD
Purcell	Exploration for Facultative Endosymbionts of Sharpshooters*	UC-PD

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Redak	Relationship Between Total Population Counts of GWSS and Numbers Obtained from Various Sampling Methods	UC-PD
Redak	Developing a Method to Detect <i>Xylella fastidiosa</i> in GWSS	UC-PD
Rost/Matthews	Mechanisms of Pierce's Disease Transmission in Grape Vines: An Analysis of The Xylem Pathways and Movement of <i>Xylella Fastidiosa</i>	CDFA - Board
Toscano	Plant-GWSS interactions: Physiological and Biochemical Mechanisms Involved in Host Plant Selection with Particular Reference to Lemon and Orange Trees*	UC-PD
Walker	An Expanded Genetic Map of <i>Vitis rupestris</i> x <i>Muscadinia rotundifolia</i> s for Fine Scale Mapping and Characterization of Pierce's Disease Resistance	UC-PD

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Funding Agency Key

Almond	Almond Board of California
AVF	American Vineyard Foundation
CA Citrus Nursery	California Citrus Nursery Advisory Board
Cal Trans	California Department of Transportation
CCGPRVE	California Competitive Grant Program for Research in Viticulture/Enology
CDFA	California Department of Food and Ag
CDFA - Board	California Department of Food and Ag - PD/GWSS Board
CDFA - 1232	AB 1232 funding
Citrus Board	Citrus Research Board
Kern/Tulare	Kern/Tulare GWSS Task Force
Raisin	California Raisin Marketing Board
Riverside	County of Riverside
Table	California Table Grape Commission
UC - IPM	University of California Integrated Pest Management Project
UC - PD	University of California Pierce's Disease Grant Program
USDA	United States Department of Agriculture
USDA-APHIS	USDA-Animal & Plant Health Inspection Service
VC	Viticulture Consortium

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